

## SELF-HEALING LINE SWITCHED RING FOR ATM TRAFFIC

### Abstract of the Disclosure

The invention provides for a method for transporting a SONET formatted asynchronous transfer mode (ATM) signal and/or a synchronous transfer mode (STM) signal on a line switched ring over a unidirectional path. The SONET formatted ATM signal comprises cells mapped into a STS-Mc or  $m \times$  STS-1s while the STM signal comprises STS-1s/VTs mapped STS-W. A unidirectional line switched ring is provided for transporting the STM STS-W using a unidirectional path switched protection protocol and the ATM STS-Mc using a unidirectional line switched protection protocol. A ring node comprises input and output ring interfaces, an STS management block, an ATM cell management block, and a non-ATM payload management block. The STS management block routes the traffic to the ATM cell management block and to the non-ATM payload management block, according to the traffic type. The STS management block also provides the UPSR protection for the STS-1s and ULSR protection for the STS-Mc. The ATM cell management block maps the add ATM cells received from the ATM ports into the STS-Mc signal, and delineates the cells from the STS-Mc to present them to the ATM ports. The non-ATM payload management block routes STM VTs or STS-1s to/from the non-ATM ports.